Newbury Visual Display Terminal

OPERATOR INSTRUCTION MANUAL

MP MASTER
MA23746

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Model 7001—7002 Visual Display Terminal

The Model 7001 (Upper Case) and Model 7002 (Upper & Lower Case) Visual Display Terminals have been designed for direct Teletype replacement. No modification to the main frame computer software is required.

REAR PANEL

POWER ON/OFF	Operation of the Power On switch will cause the cursor to appear after a delay of approximately 20 seconds.
HALF/FULL DUPLEX	Half Duplex operation. Data is transmitted and displayed on the screen. Full Duplex operation. Data is transmitted but will only be displayed when re-transmitted from the remote source.
TRANSMISSION SWITCH	The transmission switch permits the selection of speeds from 50 baud to 9,600 baud.
EXTERNAL VIDEO	A video socket is provided for additional T.V. monitors to be connected.
INTERFACE SOCKETS	Two interface sockets are provided:— (i) 25 Pin CCITT V24 (RS232) (ii) 9 Pin 20—60mA current loop
BRIGHTNESS	The intensity of the display may be varied by the BRIGHTNESS control. Focus is preset and will be affected if the brightness is too high.

Each of the following keys will generate the corresponding ASCII-ISO code when depressed. (Fig.1)

SHIFT	When held depressed, causes lower case characters to be transmitted on the depression of the associated key.
CONTROL	When held depressed, a function code may be transmitted by the operation of the appropriate key.
ESCAPE	This key causes the Escape code to be transmitted.
REPEAT	If this key is held down together with an alphanumeric, sign, or function key, the normal action of the alphanumeric, sign, or function key will be continuously repeated until either key is released.
BREAK	This key causes the signal (Logic 0) to exist on the transmission for as long as the key is held down.
RUB OUT	Depression of this key causes RUB OUT code to be transmitted.
LINE FEED	This key will cause the entire displayed information to move up one line.
CLEAR	Both CLEAR Keys must be depressed to clear all displayed information.

TECHNICAL SPECIFICATION

Screen Size	-	12" Measured along a diagonal.
Display Format	-	24 Lines of 80 Characters per line.
Character Set	-	64 ASCII.
Character Format	-	7 x 5 Dot Matrix.
Cursor Mode	-	Moving Pointer.
Refresh Rate	-	50 times per second.
Memory	-	RAM.
Keyboard	-	ASCII Teletype.
Operator Controls	-	Power ON/OFF; Brightness; Half/Full Duplex.
Transmission Rate	-	Switchable 50 – 9,600 baud.
Serial Interface	-	CCITT V24 (RS 232) and 20 – 60 mA Current Loop.
Size	-	350 width x 510 Depth x 350 Height
Weight	-	25lbs
Supply Voltage	-	110/240 V. AC + 7% – 15%.
Supply Power	-	40 Watts.
Supply Frequency	-	50/60 Hz ± 10%.
Ambient Conditions	-	32°F to 113°F (0° – 43°C). 20% to 90% R.H. Non-Condensing.

The Interface provides a buffer between the machine logic and the modem lines, ensuring the correct current and voltage levels.

Connection to V24 Modems is via 25-way 'D' plug, the pins of which are used as follows:

Pin 2: TXD ✓ Data for Transmission, from Keyboard.

3: RXD ✓ Data received from the Modem.

4: RQTS Request to send signal to Modem.

5: RFS 'Ready for sending' signal from Modem, Keyboard inhibited if not present.

6: DSR Data Set Ready, signal from modem, returned as RQTS (Pin 4).

7: Common (0v). ✓

8: DCP Data Carrier Present, from Modem, used to gate TXD. If not present, reception is inhibited.

11: Data rate selector, from the IF CLOCK, this indicates to a two speed Modem the speed in use.

Pins 5 and 8 are connected via 8K2 resistors to +12v, which allows the terminal to operate when the pins are left unconnected, eg. when not plugged in to a Modem. The data received from and sent to the modem uses negative logic, where logic 1 = negative voltage, and logic 0 is positive voltage.

Current loop modem is connected through the 9 pin socket. The 7001 is passive, in that no drive is applied to the line. Opto-couplers are used to sense the current in the lines carrying data, and interrupt the transmitted-data lines.

Idling, no-data condition for the current loop is when current (20mA to 60mA) is flowing. Zero current is logic −1.

Pin connections are as follows:

Pin 1: Current In. Received data loop.

2: Current Out. " " "

3: INHIBIT. Disables the current loop circuits if left disconnected. The current loop must be disabled if not being used, as no current is the active (start bit) condition. Pin 3 must be connected to pin 5 (0v) if the current loop is in use.

4: V24 threshold control. Normally left open circuit, when the V24 RXD thresholds are +3v and +0.2v. If pin 4 is connected to 0v, the V24 RXD thresholds are +3v and −3v for highest noise immunity.

5: 0v Common.

6: Current In. Transmitted data loop.

7: Current Out. " " "

8: +5v Power Supply line.

9: −12v " " "

(All current directions conventional + to−).

The Inhibit, pin 3, is shorted to 0v via a link in the modem in-line socket when current loop is in use.

Switched to FULL DUPLEX, the 7001 transmit and receive paths are isolated, and information can only be received via the modem connections.

In HALF DUPLEX, the transmitted data is passed to the receive path at the same time as it is sent to the modem.

ASCII Teletype Compatible Keyboard - FIG.1

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